REMARKS

To further advance the prosecution of the present application, the Applicants have now amended the two independent claims 1 and 20 by adding a first limitation of a combination of "N-hexadecyl-N,N-dimethyl-3-amino-1-propanesulfonate, and a nonionic surfactant selected from the group consisting of an ethoxylated acetylenic glycol polymer, and a block copolymer of ethylene oxide and propylene oxide," and a second limitation of "wherein the sample dilution solution is not in contact with the dry non-enzymatic binding assay reagent system during storage." Dependent claims 5, 6, 24, 25, 28, 29, 31, 38, 39, and 41 are also amended accordingly for clarification. The remaining claims 2-4, 7-19, 21-23, 26-27, 30, 40, and 42-45 are canceled without prejudice.

In the Office Action mailed on March 28, 2006, the Examiner has rejected Claims 29-30 and 39-40 under 35 U.S.C. 112, second paragraph, as being unclear for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Applicants respectfully disagree and believe that the Examiner has made an error. As stated in Claims 28 and 38, ethoxylated-2,4,7,9-tetramethyl-5-decyne-4,7-diol is one example of an ethoxylated acetylenic glycol polymer, which is different from a block copolymer as indicated in Claims 27 and 37. As such, the ethylene oxide content in Claims 29, 30, 38, and 40 clearly refers to the diol. The Applicants respectfully request the Examiner to reconsider and withdraw these rejections.

In paragraph 4 of the Office Action, the Examiner has indicated that claim 1 still do not positively recite dry immunoassay reagent system. The Applicants have now amended the claim in compliance with the Examiner's suggestion.

In paragraph 5, the Examiner have rejected Claims 1-3, 5-6, 20-26 and 36 under 35 U.S.C. 102(b) as being anticipated by Hirai (U.S. 5,882,935). It is generally accepted in the scientific community that the storage stability of a biological molecule such as a protein can be enhanced by adding a surfactant to form a single formulation, in which the biological molecule and the surfactant are in physical contact during storage. That is exactly what is disclosed by Hirai. The surfactants as disclosed by Hirai in Column 11, lines 20-25 are used to stabilize a non-diffusible substrate and other proteins on the substrate layer of a dry immunoassay element. The non-diffusible substrate as further disclosed in Column 13, lines 38-44, includes enzymes such as amylase and glycoamylase.

The substrate layer may further contain an enzyme-labeled antibody (Column 12, line 38-41) and a fragmenting enzyme (Column 12, line 65). Since the surfactants and enzymes are in the same formulation, the surfactants are constantly in physical contact with the proteins (enzymes and antibodies) during storage to provide enhanced storage stability.

However, the Applicants' invention is distinctly different from Hirai. The stabilizing surfactant that is used to provide storage stabilities for enzymes and antibodies on a dry immunoassay reagent system is in a sample dilution solution and physically separated from the enzymes and antibodies during storage. The stabilizing surfactant gets in contact with the enzymes and antibodies only when the system is in use. From the common wisdom in the art of biological sciences, it is unconceivable how a surfactant can stabilize a protein without contacting each other. This distinct feature is not shown or suggested by Hirai. It is also not recognized by the scientific community as that it is generally believed that an enzyme or antibody has to be in physical contact with a surfactant to provide storage stability. The Applicants are not aware any scientific publication which suggests otherwise.

The Applicants also believe that the Examiner has made an error in her argument. The disclosure of Hirai on Column 6, lines 30-35 and 45-50 relates exclusively on analyte and its preparation prior to analysis, and does not teach or suggest "to improve reactivity and storage stability" during analyte processing using surfactants.

In paragraph 6, the Examiner have rejected Claims 31-35 and 41-45 under 35 U.S.C. 103 as being unpatentable over Hirai. The rejections are respectfully traversed for the same reason as discussed hereinabove. Additionally, the Applicant's invention is a selection invention, a combination of two specific surfactants, "N-hexadecyl-N,N-dimethyl-3-amino-1-propanesulfonate, and a nonionic surfactant selected from the group consisting of an ethoxylated acetylenic glycol polymer, and a block copolymer of ethylene oxide and propylene oxide", in a sample dilution solution, which is not in contact with the dry non-enzymatic binding assay reagent system during storage. Supposed that Hirai has a generic disclosure of surfactants in a sample dilution solution for use with enzymes and antibodies to provide storage stability, it does not teach specifically the two surfactants used in the present invention. Prior generic disclosure did not render later selected

species obvious under 35 U.S.C 103 (see *In re Baird*, 16 F.3d 380, 382 (Fed. Cir. 1994)). Furthermore, as disclosed on the website of Sigma-Aldrich, a major biological reagent supplier, there are over 40 anionic surfactants and over 110 non-ionic surfactants available for one company alone, for biological applications (see Attachment 1). The combination of one anionic surfactant and one non-ionic surfactant will generate over 4400 possibilities. It will not be obvious for a person skilled in the art readily to pick a combination form these 4000 possibilities.

In paragraph 7, the Examiner have rejected Claims 6 and 25 under 35 U.S.C. 103(a) as being unpatentable over Hirai in view of Spring (U.S. 5,643,721). The rejections are respectfully traversed for the same reasons as described hereinabove.

In paragraph 8, the Examiner have rejected Claims 27 and 37 under 35 U.S.C. 103(a) as being unpatentable over Hirai in view of Scholl (U.S. 4,652,5172). The rejections are respectfully traversed. As discussed hereinabove, the Applicant's invention is a selection invention, a combination of two specific surfactants, "N-hexadecyl-N,N-dimethyl-3-amino-1-propanesulfonate, and a nonionic surfactant selected from the group consisting of an ethoxylated acetylenic glycol polymer, and a block copolymer of ethylene oxide and propylene oxide", in a sample dilution solution, which is not in contact with the dry non-enzymatic binding assay reagent system during storage. Scholl disclose N-hexadecyl-N,N-dimethyl-3-amino-1-propanesulfonate (Claim 2). However, the teachings of Hirai and Scholl in combination do not disclose or suggest the specific combinations of two surfactants in a sample dilution buffer as in the amended claim 1 or 20. Further, it will not be obvious for a person skilled in the art to readily pick the combination disclosed in the present invention from over 4000 possible combinations of two surfactants.

In paragraph 9, the Examiner have rejected Claims 28-30 and 38-40 under 35 U.S.C. 103(a) as being unpatentable over Hirai in view of Scholl (U.S. 4,652,517), and further in view of Simonnet (U.S. 20020142017). The rejections are respectfully traversed. Although Scholl discloses N-hexadecyl-N,N-dimethyl-3-amino-1-propanesulfonate (Claim 2) and Simonnet discloses ethoxylated-2,4,7,9-tetramethyl-5-decyne-4,7 diol, these teachings together do not teach or suggest a specific combination of the two surfactants for use together. Additionally, ethoxylated-2,4,7,9-tetramethyl-5-decyne-4,7 diol is not a common surfactant used by a biologist. As a major biological

reagent supplier, Sigma-Aldrich does not carry this surfactant in their catalog.

SUMMARY

It is submitted that this amendment meets the requirements of 37 C.F.R. 1.116(b) for entry of amendments after final rejection. Entry of this amendment is therefore respectfully requested.

If the Examiner believes that it would facilitate prosecution, Applicants' Agent, Lin Yu, Ph.D. may be contacted at (619) 230-7457 or at lyu@gordonrees.com.

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Respectfully submitted,

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